

**ABSTRACT**

It is realized that the use of a spanning tree protocol in particular portions of a network may not necessarily be desired due to performance and stability reasons. A method and system is provided for executing a revised spanning tree algorithm that performs more optimally in particular network topologies. In one aspect, a spanning tree protocol is executed over a first and second network connected by a third network, wherein the spanning tree network is disabled in the third network. The third network may be, for example, a core network through which first and second Layer 2 networks are bridged. The first and second networks may be coupled by another network or network connection, and it may be preferable to allow the operation of the spanning tree network between the first and second coupled networks for the purpose of fail over to redundant paths. In network forwarding devices positioned at edges of the core network, the operation of the STP over interfaces where network tunnels of each network forwarding device attached to the core network may be inhibited (e.g., turned off). A phantom root bridge may be created that does not correspond to an actual network forwarding node, and this phantom root bridge may have a bridge identifier which is used by network forwarding nodes as the root bridge. In this manner, STP protocols may work as intended in peripheral networks, while STP does not need to be executed in the core.